

Amendments to the Claims

1. (currently amended) An ablation treatment apparatus, comprising:
~~an energy source;~~
an introducer having a distal portion and a proximal portion; and
~~a monopolar multiple antenna device including a primary antenna with a lumen and a longitudinal axis, and a secondary~~at least one antenna positioned in the ~~primary antenna~~introducer as the ~~primary antenna~~introducer is introduced through tissue and exhibiting a changing direction of travel when deployed from the ~~primary antenna~~introducer in a lateral direction relative to the longitudinal axis at a selected tissue mass, wherein the ~~primary antenna and the secondary~~said at least one antenna are ~~each electromagnetically~~being operatively coupled to the ~~a~~microwave energy source; and
~~at least one cable coupling one or both of the antennas to the energy source~~at least one thermal sensor coupled to at least one of (i) the introducer, or (ii) at least one of the at least one antennas.

2. (currently amended) The apparatus of claim 1, wherein at least a portion of a distal end of the ~~secondary~~at least one antenna is constructed to be structurally less rigid than the ~~primary antenna~~introducer, and the ~~primary antenna~~introducer is constructed to be rigid enough to be introduced through tissue.

3. (currently amended) The apparatus of claim 1, further comprising:
~~a sensor at least partially positioned on an exterior surface of the primary or secondary antennas; and~~
a feedback control system operatively coupled to the at least one energy source ~~and the sensor~~ and the microwave energy source, wherein the feedback control system is responsive to a detected characteristic from the sensor and provides a delivery of energy output from the energy source to one or more of the antennas.

4-6. (canceled)

7. (currently amended) The apparatus of claim 1, wherein said at least one antenna comprises at least two antennas ~~two secondary electrodes are provided and laterally deployed from the primary antenna~~, each of the ~~primary and secondary~~ antennas having an ablationenergy delivery surface to create an ablation volume between the ~~ablationenergy~~ delivery surfaces.

8. (currently amended) The apparatus of claim ~~6~~1, wherein each ~~secondary~~ antenna includes at least one thermal sensor to measure temperature.

9. (currently amended) The apparatus of claim 1, wherein said at least one antenna comprises at least three antennas ~~secondary electrodes are provided and laterally deployed from the primary antenna~~, each of the ~~primary and secondary~~ antennas having an ablationenergy delivery surface to create an ablation volume between the ~~ablationenergy~~ delivery surfaces.

10. (canceled)

11. (currently amended) The apparatus of claim 1, further comprising:
an insulation sleeve positioned in a surrounding relationship around at least a portion of at least one of (i) the introducer, or (ii) the at least one antenna ~~an exterior of the primary antenna~~.

12. (currently amended) The apparatus of claim 11, wherein the insulation sleeve is adjustably moveable along an exterior of the introducer or the at least one antenna~~primary antenna~~.

13-14. (canceled)

15. (original) The apparatus of claim 1, further including a ground pad electrode.

16-17. (canceled)

18. (currently amended) The apparatus of claim 1, wherein the ~~primary antennaintroducer~~ is hollow and coupled to an infusion medium source to receive an infusion medium.

19. (currently amended) The apparatus of claim 1, further comprising: a cooling element coupled to the ~~primary antennaintroducer~~.

20. (currently amended) A method for creating an ablation volume in a selected tissue mass, comprising:

providing an ~~monopolar~~ ablation device with an introducer primary antenna, at least one secondary antenna with a distal end and being operatively coupled to a microwave energy source, and at least one thermal sensor coupled to at least one of (i) the introducer, or (ii) at least one of the at least one antennas, and an energy source electromagnetically coupled to both antennas;

~~providing a ground pad electrode;~~

inserting the ~~primary antennaintroducer~~ into the selected tissue mass with the ~~secondary~~ at least one antenna distal end positioned in the ~~primary antennaintroducer~~ lumen;

advancing the ~~secondary~~ at least one antenna distal end out of the ~~primary antennaintroducer~~ lumen and into the selected tissue mass ~~in a lateral direction relative to a longitudinal axis of the primary antenna;~~

delivering electromagnetic energy from the microwave energy source to the at least one antenna ~~from one of a primary antenna ablation surface, a secondary antenna ablation surface or both to the selected tissue mass;~~ and

creating an ablation volume in the selected tissue mass.

21. (currently amended) The method of claim 20, wherein said at least one antenna comprises at least two secondary-antennas, each having an ablationenergy delivery surface, are advanced from the primary antenna, and an ablation volume is created between the two ~~secondary-antennas~~ ablationenergy delivery surfaces and ~~the primary antenna ablation surface~~.

23. (currently amended) The method of claim 21, wherein the at least two secondary antennas are advanced out of a distal end of the introducer primary antenna.

24. (currently amended) The method of claim 21, wherein the at least two secondary-antennas are advanced out of separate ports formed in the introducer~~primary antenna~~.

25-29. (canceled)

30. (currently amended) The method of claim 20, wherein the primary electrodeintroducer is operatively coupled to an energy source and has an ablationenergy delivery surface ~~that is at least equal to one half or more of an ablation surface of the secondary antenna~~.

31. (new) The apparatus of claim 3, wherein the feedback control adjusts at least one of (i) a power level, (ii) a duty cycle, and (iii) an energy delivery in response to the temperature measured at the at least one sensor.

32. (new) The apparatus of claim 1, further comprising:
a display for displaying temperature values measured at the at least one sensor.

33. (new) The apparatus of claim 1, wherein said introducer is an antenna operatively coupled to an energy source.

34. (new) The apparatus of claim 33, wherein said introducer is coupled to a RF energy source.

35. (new) The apparatus of claim 1, wherein the introducer includes a tissue piercing distal end.

36. (new) The apparatus of claim 3, further comprising:
a controller coupled to the energy source and at least one of (i) the at least one thermal sensor and (ii) the feedback control to adjust the energy supplied to the antennas in response to the temperature measured at the at least one sensor.

37. (new) The apparatus of claim 20, further comprising:
adjusting the energy supplied to the at least one antenna in response to a temperature measured at the at least one sensor.